

**DETAILED ACTION**

***Claim Rejections - 35 USC § 102/103***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1 to 7 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over each of Kanekiyo et al. (Kanekiyo '235, U.S. Patent Application Publication No. 2002/0117235, cited by the Examiner) and Kanekiyo et al. (Kanekiyo '339, U.S. Patent Application Publication No. 2002/0017339, cited in the IDS submitted June 9, 2006).

Each of the references teaches a rare earth permanent magnet composition that overlaps the composition recited in the instant claims (Kanekiyo '235, paragraphs [0013] [0179] to [0186] and Kanekiyo '339, paragraph [0014]). The disclosed magnetic compositions have a  $R_2Fe_{14}B$  phase (a hard magnetic phase) and soft magnetic phase including  $\alpha$ -Fe as recited in the instant claims (Kanekiyo '339, paragraph [0014] and

Kanekiyo '235, paragraph [0075]. Each of the references also teaches specific example alloys having compositions that are encompassed by the instant claims (Kanekiyo '235, Table 8 and Kanekiyo '339, Tables 1 and 3). Each of the references teaches a process for making the disclosed alloys comprising rapidly solidifying a melt of the alloy (Kanekiyo '339 paragraph [0035] and Kanekiyo '235, paragraph [0013]) and heat treating the rapidly solidified alloy (Kanekiyo '339, paragraph [0134] and Kanekiyo '235, paragraph [0142]). Kanekiyo '339 teaches that during the rapid solidification step the chill roller has a velocity of 7 to 30 m/sec (Table 1) which appears to encompass the chill roll velocity disclosed by applicants (for example, see Figures 3 and 4 of the instant application). Kanekiyo '235 teaches that during the rapid solidification step the chill roller has a velocity of 5 to 20 m/sec (paragraph [0137]) which appears to encompass the chill roll velocity disclosed by applicants (for example see Figures 3 and 4 of the instant application). Thus, each of the references teaches alloy compositions that are encompassed by the compositions recited in the instant claims and which are made by processes which are similar, if not, the same as applicants' disclosed method.

The claims and the references differ in that the references are silent with respect to the Curie temperature of the crystalline phase.

However, one of ordinary skill in the art at the time the invention was made would have considered the invention to have been obvious because the alloy taught by each of the references has a composition that is encompassed by the instant claims and is made by a process which is similar to, if not the same as, applicants' process of making the instantly claimed alloy. In view of this, the alloy taught by the reference would be

expected to possess all the same properties as recited in the instant claims, *In re Best*, 195 USPQ, 430 and MPEP 2112.01.

"Where the claimed and prior art products are identical or substantially identical in structure or composition, or are produced by identical or substantially identical processes, a prima facie case of either anticipation or obviousness has been established, *In re Best*, 195 USPQ 430, 433 (CCPA 1977). 'When the PTO shows a sound basis for believing that the products of the applicant and the prior art are the same, the applicant has the burden of showing that they are not.' *In re Spada*, 15 USPQ2d 655, 1658 (Fed. Cir. 1990). Therefore, the prima facie case can be rebutted by evidence showing that the prior art products do not necessarily possess the characteristics of the claimed product. *In re Best*, 195 USPQ 430, 433 (CCPA 1977)." see MPEP 2112.01.

#### ***Claim Rejections - 35 USC § 103***

4. Claims 13 to 15 are rejected under 35 U.S.C. 103(a) as obvious over each of Kanekiyo et al. (Kanekiyo '235, U.S. Patent Application Publication No. 2002/0117235, cited by the Examiner) and Kanekiyo et al. (Kanekiyo '339, U.S. Patent Application Publication No. 2002/0017339, cited in the IDS submitted June 9, 2006).

Kanekiyo '339 and Kanekiyo '235 teach and are applied as set forth above.

One of ordinary skill in the art at the time the invention was made would have considered the invention to have been obvious because the process step recited in claim 13 amounts to no more than testing a product to determine if the product possesses a desired property, that is, the recited step is no more than a quality control procedure.

***Response to Arguments***

5. Applicant's arguments filed October 8, 2009 have been fully considered but they are not persuasive.
6. Applicants argue that the applicants' process of making the claimed nanocomposite magnetic alloy is not the same as the process taught by each of Kanekiyo '339 and Kanekiyo '235 in that these references teach a quenching cooling rate of  $10^2$  °C/sec to about  $10^5$  °C/sec. and that there is no hint or suggestion that the references were in possession of nanocomposite magnet or alloy having the feature of "the crystalline phase has a Curie temperature of 610 °C to 700 °C". The Examiner is not persuaded. In making these arguments applicants, with the exception of quoting a preferred quenching rate of  $4.0 \times 10^5$  K/s, have not actually stated exactly what cooling rate is disclosed to make the claimed nanocomposite magnetic and alloy. Further, the preferred quenching rate of  $4.0 \times 10^5$  K/s, cited by applicants in their arguments is encompassed by the cooling rate of  $10^2$  °C/sec to about  $10^5$  °C/sec taught by each of the Kanekiyo references (Kanekiyo '339, paragraph [0129] and Kanekiyo '235, paragraph [0119]). In addition as set forth in the statement of the rejection, Kanekiyo '339 teaches that during the rapid solidification step the chill roller has a velocity of 7 to 30 m/sec (Table 1) which appears to encompass the chill roll velocity disclosed by applicants (for example, see Figures 3 and 4 of the instant application) and Kanekiyo '235 teaches that during the rapid solidification step the chill roller has a velocity of 5 to 20 m/sec (paragraph [0137]) which appears to encompass the chill roll velocity disclosed by applicants (for example see Figures 3 and 4 of the instant application).

Thus, it appears that the process disclosed by the applicants and each of the Kanekiyo references are extremely similar if not the same.

"Where the claimed and prior art products are identical or substantially identical in structure or composition, or are produced by identical or substantially identical processes, a prima facie case of either anticipation or obviousness has been established, In re Best, 195 USPQ 430, 433 (CCPA 1977). **'When the PTO shows a sound basis for believing that the products of the applicant and the prior art are the same, the applicant has the burden of showing that they are not.'** In re Spada, 15 USPQ2d 655, 1658 (Fed. Cir. 1990). Therefore, the prima facie case can be rebutted by evidence showing that the prior art products do not necessarily possess the characteristics of the claimed product. In re Best, 195 USPQ 430, 433 (CCPA 1977)." see MPEP 2112.01 (emphasis added by the Examiner).

In view of the statement of the rejection and the Examiner's response to applicants' arguments, it is the Examiner's position that the Examiner has presented a sound basis for believing that the claimed product and each of the Kanekiyo products are the same. As stated in the above quoted section of MPEP 2112.01 the applicants now have the burden of showing that the applicants' product and the Kanekiyo products are not the same. Applicants have not provided any evidence in support of their statement that the applicants' product and the Kanekiyo are in fact different, therefore applicants have not met their burden. "It is well settled that unexpected results must be established by factual evidence. Mere argument or conclusory statements in the specification do not suffice." In re Deblauwe, 222 USPQ 191, 196 (Fed. Cir. 1984). Mere lawyer's arguments and conclusory statements in the specification, unsupported by objective evidence, are insufficient to establish unexpected results." In re Wood, Whittaker, Stirling and Ohta, 199 USPQ 137, 140 (CCPA 1978). Applicants' arguments cannot take the place of evidence in the record, MPEP 716.01(c)II.

Applicants argue that the Kanekiyo references do not provide any specific examples within the narrow range of cooling rates disclosed by the applicants. The Examiner is not persuaded. A reference is never limited to the specific examples set forth in the reference. Thus, the absence of examples in the Kanekiyo references of specific examples falling within applicants' disclosed process is not a prohibition against the use of the Kanekiyo patents as references against applicants' claims.

Regarding the rejection of applicants' claim 13, applicants refer to the previously made argument that the Kanekiyo references fail to teach or suggest alloys having the feature, "the crystalline phase has a Curie temperature of 610 °C to 700 °C". In like manner and in the interest of brevity, the Examiner refers to the Examiner's response to applicants' arguments set forth above.

Regarding claim 13, applicants argue that the "ω phase" is new and unknown prior to applicants' claimed invention and because the "ω phase" was unknown one of ordinary skill in the art would have not any reason to perform the step of "determining whether or not a rapidly solidified alloy to make a nanocomposite magnet which has selected from the multiple rapidly alloys, includes a soft magnetic phase having a Curie temperature of 610 °C to 700 °C" as recited in applicants' claim 13. The Examiner is not persuaded. Applicants' claim 13 is silent with respect to the "ω phase" nor have applicants explained the nexus between the "ω phase" and the "soft magnetic phase having a Curie temperature of 610 °C to 700 °C".

***Conclusion***

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John P. Sheehan whose telephone number is (571) 272-1249. The examiner can normally be reached on T-F (7:30-5:00) Second Monday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on (571) 272-1244. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/John P. Sheehan/  
Primary Examiner  
Art Unit 1793

JPS